

A TAXONOMIC STUDY ON THE GENUS *VEPRACARUS* AO KI (ACARI, ORIBATIDA, LOHMANNIIDAE), WITH DESCRIPTION OF A NEW SPECIES FROM CHINA

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Abstract This paper deals with four species of the genus *Vepracarus* Aoki, 1965 (Acari, Oribatida, Lohmanniidae) from China, including a new species, *Vepracarus jinggangshanensis* sp. nov., from Jiangxi Province. A key is given to distinguish all known species of the genus in China. The type specimens of the new species are deposited in the Institute of Entomology, Guizhou University (GUGC).

Key words Taxonomy, Oribatida, Lohmanniidae, *Vepracarus*, new species, China

Introduction

The genus *Vepracarus* was established by Aoki (1965) with the type species *Cryptacarus hirsutus* Aoki (1961): 1) genital plates transversely divided; 2) anal and adanal plates separate; 3) pre-anal plate narrow, two pairs of anal, four pairs of adanal setae present; 4) strong neotrichy posteriorly on notogaster arboriform or ramified (Balogh et Balogh, 1987). There are 11 species known worldwide and three of them are recorded from China. In this paper, a new species is described and illustrated from Jiangxi Province, China. The type specimens of the new species are deposited in the Institute of Entomology, Guizhou University, Guiyang, Guizhou (GUGC). A key is provided to separate the species of *Vepracarus* known in China. The measurements are given in microns (μm), of which the paratypes' range is within bracket.

Key to species of *Vepracarus* Aoki known from China

1. Body surface well covered with papillae; notogastral setae as long as pygidial neotrichal setae and all notogastral setae star-branched; epimeral setal formula: 9-4-3-4 *V. hirsutus*
Body surface covered with puncture; notogastral setae longer than pygidial neotrichal setae 2
2. Dorsal surface present reticulation; neotrichal setae with three types: smooth, barbed and star-branched; epimeral setal formula: 8-4-3-3 *V. cruzae*
Dorsal surface without reticulation 3
3. Pygidial notogastral setae present from setae of e-series to p-series; posterior exobothridial setae (exp) as long as interlamellar (in) and lamellar (le) setae, respectively; epimeral setal formula: 9-5-3-4 *V. punctatus*
Pygidial notogastral setae present from setae of c-series to p-series; exp setae longer than ro, le, in and exa setae; epimeral setal formula: 8-7-3-4 *V. jinggangshanensis* sp. nov.

Vepracarus hirsutus Aoki, 1961

Cryptacarus hirsutus Aoki, 1961: 64-65.

Vepracarus hirsutus Aoki, 1965: 142.

Distribution. Japan, India, Philippines, Tahiti, Tongatapu, China (Anhui, Chongqing, Fujian, Guangxi, Guizhou, Hainan, Hunan, Jiangsu, Jiangxi, Jilin, Shandong, Shanghai, Taiwan, Yunnan, Zhejiang).

Material Examined. Chongqing: 1 specimen, Dabasha, Chengkou, 7 July 2008, coll by CHEN Yong; 1 specimen, Gechengzhen, Chengkou, 12 July 2008, coll by CHEN Yong. Guizhou: 1 specimen, Jiupan, Guiyang, 7 Apr 2008, coll by CHEN Yong; 6 specimens, Zhushi, Hezhang, 29 Aug 2008, coll by CHEN Yong. Guangxi: 4 specimens, Lianhuashan, Jinxiu, 17 May 2009, coll by CHEN Yong; 17 specimens, Shiandashan, 12 May 2009, coll by CHEN Yong. Jiangxi: 4 specimens, Wuyishan, 2 Aug 2008, coll by XIE Li-Xia. Shandong: 4 specimens, Konglin, 12-25 June 2007, coll by CAO Bin.

Vepracarus cruzae Corpuz-Raros, 1979

Vepracarus cruzae Corpuz-Raros, 1979: 329.

Distribution. Philippines, China (Hainan, Guangdong).

Material Examined. Hainan: 13 specimens, Jianfengling, 25 Apr 2009, coll by YANG Zai-Hua. Guangdong: 146 specimens, Dinghushan, 21 Nov. 2008, coll by CHEN Yong.

Vepracarus punctatus Hu et Wang, 1990

Vepracarus punctatus Hu et Wang, 1990: 135.

Distribution. China (Guangdong, Hainan, Jiangxi, Zhejiang).

Material Examined. Hainan: 5 specimens, Wuzhishan, 19 Apr 2009, coll by YANG Zai-Hua. Jiangxi: 3 specimens, Jiulianshan, 27 July 2008, coll by XIE Li-Xia.

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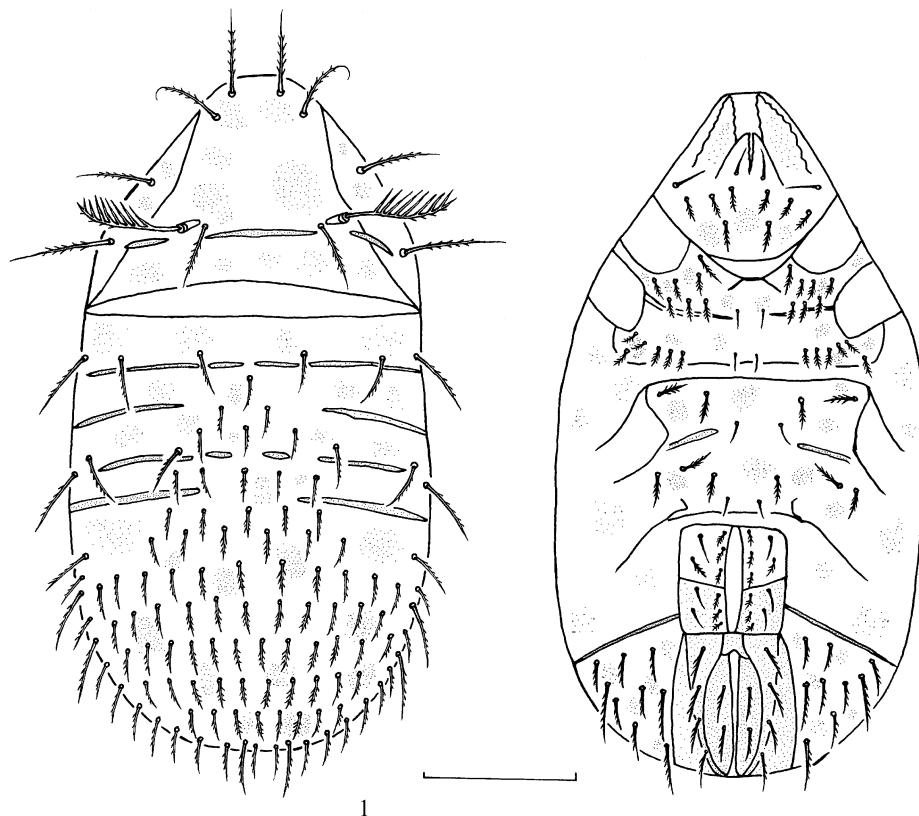
Vep racarus jinggangshanensis sp. nov. (Figs 1-2)

Colour Light brown in colour

Size (μm). Length 437 (432-441). Width 236 (232-238).

Dorsal side (Fig 1). Prodorsum. Rostrum truncate. Prodorsal surface covered by irregular punctate. Prodorsal setae conspicuously ciliate on both sides, with a smooth distal part; rostral setae

(ro), lamellar setae (le), interlamellar setae (in) and anterior exobothridial setae (exa) almost the same long; posterior exobothridial setae (exp) longer than them; sensillus bacilliform, with 8-9 long and (on the other side) 4-5 short branches. Transverse band situated behind bothridia and in setae; Prodorsal setal lengths: ro in le exa = $53 \mu\text{m}$ ($51 \mu\text{m}$ - $57 \mu\text{m}$), exp = $72 \mu\text{m}$ ($69 \mu\text{m}$ - $74 \mu\text{m}$).



Figs 1-2 *Vep racarus jinggangshanensis* sp. nov. 1. Dorsal side 2. Ventral side Scale bar = $100 \mu\text{m}$.

Ventral side (Fig 2). Notogaster. Notogastral surface similar to prodorsal surface covered by irregular punctate; four incomplete transverse bands (s_2 , s_3 , s_4 , s_5) present; notogastral setae conspicuously barbed on one side; strong pygidial notogastral setae present from setae of σ -series to p -series; some pygidial neotrichal setae unilaterally barbed and others bilaterally barbed; all posterior normal setae unilaterally barbed. Notogastral setae lengths: c_1 d_1 = $35 \mu\text{m}$ ($32 \mu\text{m}$ - $38 \mu\text{m}$), c_2 d_2 e_2 p_1 = $48 \mu\text{m}$ ($46 \mu\text{m}$ - $52 \mu\text{m}$), c_3 d_3 h_2 h_3 p_2 p_3 = $62 \mu\text{m}$ ($61 \mu\text{m}$ - $64 \mu\text{m}$), e_1 f_1 h_1 = $25 \mu\text{m}$ ($22 \mu\text{m}$ - $27 \mu\text{m}$), all pygidial neotrichal setae about $25 \mu\text{m}$.

Gnathosoma. Six pairs of setae present; setae a , m_1 smooth, others bilaterally barbed; subcapitular surface the same as dorsal surface.

Epimeral region. Number of setae on epimeres - : 8-7-3-4; setae of a -series short, fine, smooth, others bilaterally barbed; epimeral surface the same as dorsal surface.

Ano-genital region. Genital plates transversely divided, each section with five setae; paraxial setae and antiaxial setae G_9 barbed, other antiaxial setae $G_{7,8,10}$ smooth and long; aggenital plates small, triangular, situated antero-laterally of genital plates; anal and adanal plates separate; two pairs of anal setae, barbed; four pairs of adanal setae, longer than anal setae, barbed; pre-anal plate very narrow, small, posteriorly bifid; surface of genital plates, anal plates and adanal plates densely punctate. Transverse band present out of genital region, behind the transverse band present neotrichal setae.

Legs Femora - Each with a ventral ridge; solenidiotaxy (genu to tarsus) Leg : 2-1-2; Leg : 1-1-2; Leg : 1-1-0; Leg : 1-0-0; chaetotaxy (trochanter to tarsus) : Leg : 0-5-3-4-15; Leg : 0-5-3-4-12; Leg : 2-2-2-3-10; Leg : 2-4-2-3-10.

Holotype and 2 paratypes were collected by XIE Li-Xia (GUGC) from Jinggangshan ($26^{\circ}57'N$, $114^{\circ}17'E$), Jiangxi Province, China, 20 July 2008.

Discussion. The whole dorsal surface covered by irregular puncture and the four incomplete transverse bands are very similar to that of *V. punctatus*, but it differs from the latter by: 1) strong pygidial notogastral setae present from setae of α -series to ρ -series; 2) exp setae longer than ρ_4 , ρ_5 and exa setae; 3) ρ_4 , ρ_5 and exa setae almost the same long; 4) epimeral setal formula: 8-7-3-4.

Etymology. The species name is derived from the location of type locality.

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中国毛罗甲螨属及一新种记述 (蜱螨亚纲, 甲螨目, 罗甲螨科)

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摘要 毛罗甲螨属 *Vopracarus* 在中国已经记录有 3 种: 库毛罗甲螨 *V. cruzae* Corpuz-Raros, 密毛罗甲螨 *V. hirsutus* Aoki, 点毛罗甲螨 *V. punctatus* Hu et Wang. 本文记述采自江西井冈山 1 新种: 井冈山毛罗甲螨 *V. jinggangshanensis* sp. nov.。记述了 3 个已知种分布及采集纪录; 详细描述了新种的形态特征并绘制了整体特征图, 比较了新种与其近似种点毛罗甲螨 *V. punctatus* Hu et Wang 的区别特征, 提供了该属中国已知种检索表。研究标本保存于贵州大学昆虫研究所。

井冈山毛罗甲螨, 新种 *V. jinggangshanensis* sp. nov. (图 1)

关键词 分类, 甲螨目, 罗甲螨科, 毛罗甲螨属, 新种, 中国.
中图分类号 Q 959.226

~2)

浅褐色, 体表具有不规则刻点, 筒形, 体长 437 μm , 体宽 236 μm 。新种与点毛罗甲螨 *V. punctatus* Hu et Wang 相似, 其主要区别特征如下: 后背板从 α 系列毛后开始着生增生毛; 感器后外毛较吻毛、梁毛、梁间毛及感器前外毛长; 吻毛、梁毛、梁间毛及感器前外毛等长; 基节板毛式为 8-7-3-4。

正模, 江西井冈山, 2008-08-22, 谢丽霞采。副模 2 头, 采集信息同正模。

词源: 新种以采集地点井冈山命名。

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